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September 20, 2010

Brown AND Caldwell

Michelle Kerr
Remedial Project Manager
U.S EPA – Region 5
77 W. Jackson Blvd.
Mail Code: S-6J
Chicago, IL 60604-3590

139452

Subject: Groundwater Sampling Event Notification
United States of America v. AK Steel Corporation et. al.
Case No. 1:10-cv-00996-KMO
Chemical Recovery Systems Superfund Site, Elyria, Ohio

Dear Ms. Kerr:

Chemical Recovery Systems, Inc. (CRS) Site RD/RA Group Settling Performing Defendants in the CRS RD/RA Group (the Performing Parties) are currently preparing the Remedial Design Work Plan for the CRS Site in Elyria, Ohio. As discussed previously with you, the Performing Parties Group (the Performing Parties) have opted to complete a sampling event, not required by the Consent Decree (CD), that will involve the collection of groundwater samples from a portion of the Site wells. The purpose of this event is to update the groundwater database for the site prior to completion of the RD, allowing a more current assessment of the groundwater conditions at the Site. The last groundwater sampling event was completed in 2003, and the Performing Parties have opted to update the results from 2003 with current groundwater sampling results.

The sampling event is scheduled to occur on September 22 and 23, 2010. Given that the Remedial Design Work Plan (RDWP) for this site will have been submitted only a few days before this event is to occur, and the U.S. EPA will not have had a chance to review the updated Field Sampling Plan (FSP) or Quality Assurance Project Plan (QAPP) that will be submitted with the RDWP, the Performing Parties will complete the groundwater sampling in accordance with the approved FSP and QAPP that had been utilized for the Remedial Investigation (RI) at the Site. A general description of the sampling event and the methods to be used is provided below for your reference.

The focus of the sampling event will be the wells MW-5, MW-6, MW-16, L-2 and L-3. Given the relatively long period since these wells were last sampled, the wells will be re-developed prior to sampling. The re-development will consist of the extraction of approximately five volumes of groundwater from each well with a bailer or bailing the wells until no more water can be extracted, if the wells do not produce sufficient water to keep pace with the bailing process. If one or more of the wells bail dry, the development process may continue again after the well has recharged. The overall intent of the re-development process will be to obtain groundwater samples that are relatively low in turbidity and representative of the groundwater at the location of the well. Field parameters, including temperature, pH, conductivity, oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity will be obtained periodically during well development.

Following re-development of the wells and after groundwater has recovered in the wells, groundwater samples will be collected utilizing a disposable bailer. The same set of field parameters listed above will be obtained during the purging process for the sampling event and at the time of sample collection. Samples will be handled in accordance with the existing FSP and QAPP for the Site, and will be sent to Test America North Canton for analysis of Volatile Organic Compounds (VOCs) by Method SW-846 8260 B. Standard chain of custody procedures described in the existing QAPP will be utilized for shipment of the samples to the laboratory.

Analytical results from this sampling event will be provided to U.S. EPA and Ohio EPA within 75 days of the completion of the sampling event, including field forms and other supporting documentation.

If you have any questions regarding this sampling event, please contact me at 614-410-6144.

Sincerely,

Brown and Caldwell

James Peeples, P.E.
Project Manager

ec: CRS Site RD/RA Group Performing Parties
Doug McWilliams, CRS Site RD/RA Group Chair and Common Counsel
Patrick Steerman, CRS Site Project Coordinator
Larry Antonelli, Ohio EPA

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Prepared for: Settling Performing Defendants in the Chemical Recovery Systems, Inc. (CRS) RD/RA Group

Project Title: CRS Site Remedial Design

Project No: 139452.350

Technical Memorandum [No. 1]

Subject: CRS Site Groundwater Sampling – September 2010

Date: October 6, 2010

To: Patrick Steerman, CRS

From: Jim Peeples, Brown and Caldwell

Brown and Caldwell completed groundwater sampling at the Chemical Recovery Systems, Inc. (CRS) site (the Site) on September 23rd and 24th, 2010 in accordance with the letter notification provided to you on September 20th. The purpose of the groundwater sampling was to update the groundwater database with new sample results, given that the last groundwater sampling occurred during the RI/FS approximately seven years ago.

Brown and Caldwell arrived on-site on September 23, 2010 to begin well sampling. Upon arrival, the sampler met with Matt Willbond of BASF to discuss the sampling of wells L-2 and L-3 as well as the upcoming changes at the site that will limit site access from the current route via Locust Street. Mr. Willbond unlocked wells L-2 and L-3 to allow sampling of these wells, which are located along the east side of Locust Street south of the CRS property and outside of the BASF fencing. The remaining wells that would be sampled during this event were all located on the CRS property. The wells on the CRS property to be sampled included MW-5, MW-6, and MW-16. Each of these wells were locked and observed to be in good condition. The keys for the site locks could no longer be located, so the locks had to be cut from the wells. Replacement keyed-alike locks were then placed on the wells.

Water levels and total depths were obtained in the wells using an interface probe to look for potential free-phase fluid in the wells. Well MW-6 was measured last to ensure that no cross contamination occurred between the wells, given that MW-6 had been shown to have relatively high contaminant of concern (COC) levels in the previous sampling event (complete in 2003). None of the wells measured prior to MW-6 showed any indication of a free-phase in the groundwater. When MW-6 was measured, a free-phase liquid was encountered at the water table, but it coated the interface probe such that an interface with water could not be established to determine the thickness of the LNAPL layer. Additionally, there was no way to determine if a free-phase liquid was present in the base of the well due to coating of the interface probe. After several unsuccessful attempts to identify the thickness of the LNAPL layer and to obtain a water signal, the interface probe was removed from

the well and was properly cleaned and decontaminated. The fluid coating the probe was viscous and of a sticky tar-like consistency.

Given the length of time since the wells had been sampled, one of the activities to be performed during the sampling was the re-development of the wells and removal of sediment that may have accumulated. Bailing began with well MW-5. The water in this well had some turbidity with the first few bailers removed and the turbidity rapidly increased as sediment at the base of the well was stirred up. The well was bailed until only small quantities of water could be recovered with each bailer. Then low volume bailing was continued until the water removed from the well became less turbid. At this point, it could be concluded that the sediment that had been present at the base of the well had been removed. The well was then allowed to recover for future purging and sampling, within a 24-hour period of time. Field parameters including pH, specific conductance, oxidation reduction potential (ORP), dissolved oxygen, turbidity, and total dissolved solids were obtained at several intervals during the bailing process and recorded on field data sheets. All purge water from this well and all subsequent wells was containerized in drums at the CRS site for further characterization for disposal.

Purging well L-2 began next; some sediment and turbid water was also found to be present in the base of the well. Monitoring with a PID was completed during all bailing operations, but no PID readings above background or non-detect levels were obtained at any well other than MWE-6. Well L-2 was bailed to a "dry" condition in which less than a quarter of a bailer of water could be extracted from the well for each bailer run. Bailing continued at this low level until the bailed water began to clarify. Throughout the bailing process, the well continued to produce water at a rate that could be maintained relatively low by high rate bailing. When the water clarified, the well was allowed to recover for additional bailing on September 24th and sampling within a total time period of less than 24 hours. Field parameters including pH, specific conductance, oxidation reduction potential (ORP), dissolved oxygen, turbidity, and total dissolved solids were obtained at several intervals during the bailing process.

Sampling activities began again on September 24th with well MW-16. This well was bailed and developed in a manner similar to MW-5 and L-3. This well was also found to have some sediment in the base of the well and the water became turbid during bailing. The well was bailed to a low level condition in which only partial bailers of fluid could be recovered, and bailing continued until the bailed water became clearer. Groundwater field parameters (noted above) were obtained at several intervals during the bailing process. At 8:30 AM, the well was allowed to recover for further bailing and sampling later in the day.

Purging and development then began on well L-3. This well did not contain turbid or sediment laden water at the base, although it did become somewhat more turbid during baling. The well was bailed to a near "dry" condition and bailing continued until the extracted water began to clarify again. This well was allowed to recover for further purging and sampling later in the day. Field parameters were obtained from the purge water at several intervals during the bailing.

Bailing for purposes of sampling at well MW-5 began at 13:30. This well contained relatively clear water that became somewhat turbid during purging, but remained within the range of the field sampling turbidity meter throughout the purging and sampling process with a final turbidity of 310 NTU. A total of seven gallons of water was purged from this well on September 23rd (approximately five volumes of water) and an additional three volumes of water was purged prior to sampling the well at 14:16.

Additional bailing occurred for wells MW-16, L-2, and L-3 to reach a total removal of three volumes from each well. After this each of these wells were sampled. Field parameter measurements were obtained and recorded throughout the purging and sampling of these wells. Field data sheets were used for recording all field parameters. All samples were submitted to the laboratory for analysis of volatile organic compounds (VOCs). A duplicate sample was collected at well MW-5.

Following completion of purging and sampling at wells MW-5, MW-16, L-2, and L3, an attempt was made to bail water from well MW-6 and better evaluate the NAPL contents of the well. A bailer was placed into the water column and pulled to the surface. The bailer was heavily coated with a black substance that did not allow a determination of the bailer contents. The coating was such that the contents could not be viewed to determine the thickness of LNAPL (thought to be present) or determine if a DNAPL layer was present.

Upon removal of the bailer form the well, the breathing zone PID readings began to exceed five (5) parts per million (ppm) for short periods of time. A 5 ppm reading on a PID was the cut-off point that had been established in the Health and Safety Plan (HASP), which indicated that work had to cease until the breathing zone PID readings could be consistently maintained below 5 ppm. Given that there was very little air movement to carry the volatile compounds away from the well area, it was concluded that further work at the well could not be safely performed without a second sampling technician and the ability to upgrade to engineering controls in the absence of air movement away from the work area. The bailer was returned to the well and tied off, and the well was sealed and locked.

Mr. Steerman, the project coordinator for the PRP Group was contacted and informed of the findings at MW-6. It was explained that there was a free-phase material encountered in MW-6, but the nature of the material could not be determined in the field. Plans were made at that point to remobilize to the site to obtain samples of the free-phase material in the well and water present in the well. Potential health and safety issues for workers were addressed prior to the site visit and appropriate engineering controls were obtained and transported to the site for use during the next sampling event.

On September 29th Brown and Caldwell mobilized another sampling crew to the site consisting of a sampler and a Site Safety Officer (SSO). The sampler dresses in appropriate PPE to complete the well sampling while the SSO prepared the area for work and the potential use of a blower to maintain appropriate breathing zone conditions for the sampler. The weather conditions were appropriate for the sampling even on September 29th with a breeze blowing through the work area. The work zone was set up on the upwind side of MW-6 and continuous PID readings were obtained and recorded by the SSO throughout the sampling process.

The bailer that had been suspended in MW-6 on September 24th was used to bail fluids out of the well and into a five-gallon pail. A glass jar was also used to contain water that was bailed from the bottom of the well, releasing the water into the glass jar from the bottom of the bailer. A free-phase liquid was observed in the glass jar that sunk to the bottom of the container. Based on the sinking characteristic and other identifying traits, it was concluded that the fluid was a DNAPL. Bailing and recovery of fluids continued from the well for a sufficient period of time to obtain three 40 ml vials that each contained some free-phase DNAPL with water above the fluid and three 40 ml vials that contained a material thought to be an LNAPL with a water phase beneath. This was approximately the limit of free-phase material that could be obtained during this event.

The sample bottles were cleaned and labeled and a chain of custody was prepared such that the samples could be sent to the laboratory for analysis of VOCs. When the sampling was complete, all

used equipment and PPE was placed in a drum and sealed as was the sealed five-gallon pail of purge water containing some NAPL material. The drum was labeled and sealed. The well was sealed and locked. The samples were placed on ice and taken directly to Test America in North Canton for analysis. The samples are currently pending analysis at the laboratory.

ANALYTICAL REPORT

REVISED

PROJECT NO. 139452

CRS-ELYRIA, OH

Lot #: A0I270433

James A. Peeples

Brown and Caldwell
4700 Lakehurst Court
Suite 100
Dublin, OH 43016

TESTAMERICA LABORATORIES, INC.

Designee for
Alesia M. Danford
Project Manager
alesia.danford@testamericainc.com

Approved for release.
Patrick O'Meara
Project Manager
11/4/2010 2:20 PM

November 1, 2010

CASE NARRATIVE

A0I270433

The following report contains the analytical results for five water samples and one quality control sample submitted to TestAmerica North Canton by Brown & Caldwell from the CRS-ELYRIA, OH Site, project number 139452. The samples were received September 27, 2010, according to documented sample acceptance procedures.

This report was revised. Per the client, the first number of sample date looks like "7" on original COC, but is actually supposed to be a "9". All sample dates should be 9/23/10, not 7/23/10. The dates in this report have been updated accordingly.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to James A. Peeples on October 11, 2010. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Alesia M. Danford, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

CASE NARRATIVE (continued)

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 3.4°C.

See TestAmerica's Cooler Receipt Form for additional information.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

EXECUTIVE SUMMARY - Detection Highlights

A0I270433

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CRS-MW-MW5 09/23/10 14:16 001				
Acetone	1.9 J,B	10	ug/L	SW846 8260B
Chloroform	0.36 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	4.4	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	2.2	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	0.24 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	4.4	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.41 J	1.0	ug/L	SW846 8260B
Trichloroethene	3.3	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	2.6	1.0	ug/L	SW846 8260B
Vinyl chloride	0.45 J	1.0	ug/L	SW846 8260B
CRS-MW-MW50 09/23/10 14:20 002				
Acetone	2.0 J,B	10	ug/L	SW846 8260B
Chloroform	0.35 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	4.4	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	2.1	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	0.24 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	4.2	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.40 J	1.0	ug/L	SW846 8260B
Trichloroethene	3.3	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	1.0	ug/L	SW846 8260B
Vinyl chloride	0.42 J	1.0	ug/L	SW846 8260B
CRS-MW-MW16 09/23/10 15:30 003				
Acetone	1.4 J,B	10	ug/L	SW846 8260B
1,1-Dichloroethane	0.29 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	0.42 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	6.6	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.40 J	1.0	ug/L	SW846 8260B
Trichloroethene	1.9	1.0	ug/L	SW846 8260B
CRS-MW-L2 09/23/10 16:32 004				
Chloroform	9.4	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A0I270433

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
TRIP BLANK 09/23/10 006				
Acetone	6.6 J,B	10	ug/L	SW846 8260B
Methylene chloride	3.0	1.0	ug/L	SW846 8260B

ANALYTICAL METHODS SUMMARY

A0I270433

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A0I270433

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L7J0Q	001	CRS-MW-MW5	09/23/10	14:16
L7J0W	002	CRS-MW-MW50	09/23/10	14:20
L7J0X	003	CRS-MW-MW16	09/23/10	15:30
L7J01	004	CRS-MW-L2	09/23/10	16:32
L7J02	005	CRS-MW-L3	09/23/10	17:35
L7J03	006	TRIP BLANK	09/23/10	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Brown and Caldwell

Client Sample ID: CRS-MW-MW5

GC/MS Volatiles

Lot-Sample #...: A0I270433-001 **Work Order #...:** L7J0Q1AA **Matrix.....:** WG
Date Sampled...: 09/23/10 14:16 **Date Received..:** 09/27/10
Prep Date.....: 10/04/10 **Analysis Date..:** 10/04/10
Prep Batch #...: 0277176
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.9 J,B**	**10**	**ug/L**	**1.1**
Benzene	ND	1.0	ug/L	0.13
Bromodichloromethane	ND	1.0	ug/L	0.15
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
2-Butanone	ND	10	ug/L	0.57
Carbon disulfide	ND	1.0	ug/L	0.13
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Dibromochloromethane	ND	1.0	ug/L	0.18
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**0.36 J**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
Cyclohexane	ND	1.0	ug/L	0.12
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
1,1-Dichloroethane	**4.4**	**1.0**	**ug/L**	**0.15**
1,2-Dichloroethane	ND	1.0	ug/L	0.22
cis-1,2-Dichloroethene	**2.2**	**1.0**	**ug/L**	**0.17**
trans-1,2-Dichloroethene	**0.24 J**	**1.0**	**ug/L**	**0.19**
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
2-Hexanone	ND	10	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
Methyl acetate	ND	10	ug/L	0.38
Methylcyclohexane	ND	1.0	ug/L	0.13
Methylene chloride	ND	1.0	ug/L	0.33
4-Methyl-2-pentanone	ND	10	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
Styrene	ND	1.0	ug/L	0.11
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18

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Brown and Caldwell

Client Sample ID: CRS-MW-MW5

GC/MS Volatiles

Lot-Sample #...: A0I270433-001 **Work Order #...:** L7J0Q1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tetrachloroethene	**4.4**	**1.0**	**ug/L**	**0.29**
Toluene	ND	1.0	ug/L	0.13
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	**0.41 J**	**1.0**	**ug/L**	**0.22**
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	**3.3**	**1.0**	**ug/L**	**0.17**
Trichlorofluoromethane	ND	1.0	ug/L	0.21
1,1,2-Trichloro-1,2,2-trifluoroethane	**2.6**	**1.0**	**ug/L**	**0.28**
Vinyl chloride	**0.45 J**	**1.0**	**ug/L**	**0.22**
Xylenes (total)	ND	2.0	ug/L	0.28

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	90	(61 - 128)
Toluene-d8	100	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Brown and Caldwell

Client Sample ID: CRS-MW-MW50

GC/MS Volatiles

Lot-Sample #...: A0I270433-002 **Work Order #...:** L7J0W1AA **Matrix.....:** WG
Date Sampled...: 09/23/10 14:20 **Date Received..:** 09/27/10
Prep Date.....: 10/04/10 **Analysis Date..:** 10/04/10
Prep Batch #...: 0277176
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**2.0 J,B**	**10**	**ug/L**	**1.1**
Benzene	ND	1.0	ug/L	0.13
Bromodichloromethane	ND	1.0	ug/L	0.15
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
2-Butanone	ND	10	ug/L	0.57
Carbon disulfide	ND	1.0	ug/L	0.13
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Dibromochloromethane	ND	1.0	ug/L	0.18
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**0.35 J**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
Cyclohexane	ND	1.0	ug/L	0.12
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
1,1-Dichloroethane	**4.4**	**1.0**	**ug/L**	**0.15**
1,2-Dichloroethane	ND	1.0	ug/L	0.22
cis-1,2-Dichloroethene	**2.1**	**1.0**	**ug/L**	**0.17**
trans-1,2-Dichloroethene	**0.24 J**	**1.0**	**ug/L**	**0.19**
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
2-Hexanone	ND	10	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
Methyl acetate	ND	10	ug/L	0.38
Methylcyclohexane	ND	1.0	ug/L	0.13
Methylene chloride	ND	1.0	ug/L	0.33
4-Methyl-2-pentanone	ND	10	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
Styrene	ND	1.0	ug/L	0.11
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18

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Brown and Caldwell

Client Sample ID: CRS-MW-MW50

GC/MS Volatiles

Lot-Sample #...: A0I270433-002 **Work Order #...:** L7J0W1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tetrachloroethene	**4.2**	**1.0**	**ug/L**	**0.29**
Toluene	ND	1.0	ug/L	0.13
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	**0.40 J**	**1.0**	**ug/L**	**0.22**
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	**3.3**	**1.0**	**ug/L**	**0.17**
Trichlorofluoromethane	ND	1.0	ug/L	0.21
1,1,2-Trichloro-1,2,2-trifluoroethane	**2.5**	**1.0**	**ug/L**	**0.28**
Vinyl chloride	**0.42 J**	**1.0**	**ug/L**	**0.22**
Xylenes (total)	ND	2.0	ug/L	0.28

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	99	(76 - 110)
4-Bromofluorobenzene	91	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Brown and Caldwell

Client Sample ID: CRS-MW-MW16

GC/MS Volatiles

Lot-Sample #...: A0I270433-003 **Work Order #...:** L7J0X1AA **Matrix.....:** WG
Date Sampled...: 09/23/10 15:30 **Date Received..:** 09/27/10
Prep Date.....: 10/04/10 **Analysis Date..:** 10/04/10
Prep Batch #...: 0277176
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**1.4 J,B**	**10**	**ug/L**	**1.1**
Benzene	ND	1.0	ug/L	0.13
Bromodichloromethane	ND	1.0	ug/L	0.15
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
2-Butanone	ND	10	ug/L	0.57
Carbon disulfide	ND	1.0	ug/L	0.13
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Dibromochloromethane	ND	1.0	ug/L	0.18
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.30
Cyclohexane	ND	1.0	ug/L	0.12
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
1,1-Dichloroethane	**0.29 J**	**1.0**	**ug/L**	**0.15**
1,2-Dichloroethane	ND	1.0	ug/L	0.22
cis-1,2-Dichloroethene	**0.42 J**	**1.0**	**ug/L**	**0.17**
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
2-Hexanone	ND	10	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
Methyl acetate	ND	10	ug/L	0.38
Methylcyclohexane	ND	1.0	ug/L	0.13
Methylene chloride	ND	1.0	ug/L	0.33
4-Methyl-2-pentanone	ND	10	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
Styrene	ND	1.0	ug/L	0.11
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18

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Brown and Caldwell

Client Sample ID: CRS-MW-MW16

GC/MS Volatiles

Lot-Sample #...: A0I270433-003 **Work Order #...:** L7J0X1AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tetrachloroethene	**6.6**	**1.0**	**ug/L**	**0.29**
Toluene	ND	1.0	ug/L	0.13
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	**0.40 J**	**1.0**	**ug/L**	**0.22**
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	**1.9**	**1.0**	**ug/L**	**0.17**
Trichlorofluoromethane	ND	1.0	ug/L	0.21
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
Vinyl chloride	ND	1.0	ug/L	0.22
Xylenes (total)	ND	2.0	ug/L	0.28

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	90	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	100	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Brown and Caldwell

Client Sample ID: CRS-MW-L2

GC/MS Volatiles

Lot-Sample #...: A0I270433-004 **Work Order #...:** L7J011AA **Matrix.....:** WG
Date Sampled...: 09/23/10 16:32 **Date Received..:** 09/27/10
Prep Date.....: 10/04/10 **Analysis Date..:** 10/04/10
Prep Batch #...: 0277176
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	1.1
Benzene	ND	1.0	ug/L	0.13
Bromodichloromethane	ND	1.0	ug/L	0.15
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
2-Butanone	ND	10	ug/L	0.57
Carbon disulfide	ND	1.0	ug/L	0.13
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Dibromochloromethane	ND	1.0	ug/L	0.18
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	**9.4**	**1.0**	**ug/L**	**0.16**
Chloromethane	ND	1.0	ug/L	0.30
Cyclohexane	ND	1.0	ug/L	0.12
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
2-Hexanone	ND	10	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
Methyl acetate	ND	10	ug/L	0.38
Methylcyclohexane	ND	1.0	ug/L	0.13
Methylene chloride	ND	1.0	ug/L	0.33
4-Methyl-2-pentanone	ND	10	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
Styrene	ND	1.0	ug/L	0.11
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18

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Brown and Caldwell

Client Sample ID: CRS-MW-L2

GC/MS Volatiles

Lot-Sample #...: A0I270433-004 **Work Order #...:** L7J011AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	ND	1.0	ug/L	0.17
Trichlorofluoromethane	ND	1.0	ug/L	0.21
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
Vinyl chloride	ND	1.0	ug/L	0.22
Xylenes (total)	ND	2.0	ug/L	0.28

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	100	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

Brown and Caldwell

Client Sample ID: CRS-MW-L3

GC/MS Volatiles

Lot-Sample #...: A0I270433-005 **Work Order #...:** L7J021AA **Matrix.....:** WG
Date Sampled...: 09/23/10 17:35 **Date Received..:** 09/27/10
Prep Date.....: 10/04/10 **Analysis Date..:** 10/04/10
Prep Batch #...: 0277176
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	10	ug/L	1.1
Benzene	ND	1.0	ug/L	0.13
Bromodichloromethane	ND	1.0	ug/L	0.15
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
2-Butanone	ND	10	ug/L	0.57
Carbon disulfide	ND	1.0	ug/L	0.13
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Dibromochloromethane	ND	1.0	ug/L	0.18
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.30
Cyclohexane	ND	1.0	ug/L	0.12
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
2-Hexanone	ND	10	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
Methyl acetate	ND	10	ug/L	0.38
Methylcyclohexane	ND	1.0	ug/L	0.13
Methylene chloride	ND	1.0	ug/L	0.33
4-Methyl-2-pentanone	ND	10	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
Styrene	ND	1.0	ug/L	0.11
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18

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Brown and Caldwell

Client Sample ID: CRS-MW-L3

GC/MS Volatiles

Lot-Sample #...: A0I270433-005 **Work Order #...:** L7J021AA **Matrix.....:** WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	ND	1.0	ug/L	0.17
Trichlorofluoromethane	ND	1.0	ug/L	0.21
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
Vinyl chloride	ND	1.0	ug/L	0.22
Xylenes (total)	ND	2.0	ug/L	0.28

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	99	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)

Brown and Caldwell

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: A0I270433-006 **Work Order #...:** L7J031AA **Matrix.....:** WQ
Date Sampled...: 09/23/10 **Date Received..:** 09/27/10
Prep Date.....: 10/04/10 **Analysis Date..:** 10/04/10
Prep Batch #...: 0277176
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	**6.6 J,B**	**10**	**ug/L**	**1.1**
Benzene	ND	1.0	ug/L	0.13
Bromodichloromethane	ND	1.0	ug/L	0.15
Bromoform	ND	1.0	ug/L	0.64
Bromomethane	ND	1.0	ug/L	0.41
2-Butanone	ND	10	ug/L	0.57
Carbon disulfide	ND	1.0	ug/L	0.13
Carbon tetrachloride	ND	1.0	ug/L	0.13
Chlorobenzene	ND	1.0	ug/L	0.15
Dibromochloromethane	ND	1.0	ug/L	0.18
Chloroethane	ND	1.0	ug/L	0.29
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.30
Cyclohexane	ND	1.0	ug/L	0.12
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	0.67
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.13
1,3-Dichlorobenzene	ND	1.0	ug/L	0.14
1,4-Dichlorobenzene	ND	1.0	ug/L	0.13
Dichlorodifluoromethane	ND	1.0	ug/L	0.31
1,1-Dichloroethane	ND	1.0	ug/L	0.15
1,2-Dichloroethane	ND	1.0	ug/L	0.22
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.17
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.19
1,1-Dichloroethene	ND	1.0	ug/L	0.19
1,2-Dichloropropane	ND	1.0	ug/L	0.18
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.14
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.19
Ethylbenzene	ND	1.0	ug/L	0.17
2-Hexanone	ND	10	ug/L	0.41
Isopropylbenzene	ND	1.0	ug/L	0.13
Methyl acetate	ND	10	ug/L	0.38
Methylcyclohexane	ND	1.0	ug/L	0.13
Methylene chloride	**3.0**	**1.0**	**ug/L**	**0.33**
4-Methyl-2-pentanone	ND	10	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.17
Styrene	ND	1.0	ug/L	0.11
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.18

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Brown and Caldwell

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: A0I270433-006 **Work Order #...:** L7J031AA **Matrix.....:** WQ

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tetrachloroethene	ND	1.0	ug/L	0.29
Toluene	ND	1.0	ug/L	0.13
1,2,4-Trichloro-benzene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.22
1,1,2-Trichloroethane	ND	1.0	ug/L	0.27
Trichloroethene	ND	1.0	ug/L	0.17
Trichlorofluoromethane	ND	1.0	ug/L	0.21
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.28
Vinyl chloride	ND	1.0	ug/L	0.22
Xylenes (total)	ND	2.0	ug/L	0.28

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	100	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

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QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0I270433 **Work Order #...:** L7XW81AA **Matrix.....:** WATER
MB Lot-Sample #: A0J040000-176

Prep Date.....: 10/04/10
Analysis Date..: 10/04/10 **Prep Batch #...:** 0277176
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	**1.4 J**	**10**	**ug/L**	**SW846 8260B**
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	10	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	10	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0I270433 **Work Order #...:** L7XW81AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,2,4-Trichloro-benzene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	99	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0I270433 **Work Order #...:** L7XW81AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: A0J040000-176 L7XW81AD-LCSD
Prep Date.....: 10/03/10 **Analysis Date..:** 10/03/10
Prep Batch #...: 0277176
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**103**	**(80 - 116)**			**SW846 8260B**
	101	**(80 - 116)**	**1.7**	**(0-20)**	**SW846 8260B**
Chlorobenzene	**101**	**(76 - 117)**			**SW846 8260B**
	98	**(76 - 117)**	**2.6**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**103**	**(63 - 130)**			**SW846 8260B**
	101	**(63 - 130)**	**1.8**	**(0-20)**	**SW846 8260B**
Toluene	**100**	**(74 - 119)**			**SW846 8260B**
	99	**(74 - 119)**	**0.68**	**(0-20)**	**SW846 8260B**
Trichloroethene	**105**	**(75 - 122)**			**SW846 8260B**
	104	**(75 - 122)**	**0.57**	**(0-20)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
	90	(61 - 128)
Toluene-d8	100	(76 - 110)
	100	(76 - 110)
4-Bromofluorobenzene	95	(74 - 116)
	94	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0I270433 **Work Order #...:** L7L0J1AC-MS **Matrix.....:** WATER
MS Lot-Sample #: A0I280520-010 L7L0J1AD-MSD
Date Sampled...: 09/27/10 16:20 **Date Received..:** 09/28/10
Prep Date.....: 10/04/10 **Analysis Date..:** 10/04/10
Prep Batch #...: 0277176
Dilution Factor: 4

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**102**	**(78 - 118)**			**SW846 8260B**
	102	**(78 - 118)**	**0.47**	**(0-20)**	**SW846 8260B**
Chlorobenzene	**97**	**(76 - 117)**			**SW846 8260B**
	98	**(76 - 117)**	**0.34**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**98**	**(62 - 130)**			**SW846 8260B**
	97	**(62 - 130)**	**0.46**	**(0-20)**	**SW846 8260B**
Toluene	**98**	**(70 - 119)**			**SW846 8260B**
	98	**(70 - 119)**	**0.01**	**(0-20)**	**SW846 8260B**
Trichloroethene	**87**	**(62 - 130)**			**SW846 8260B**
	73	**(62 - 130)**	**3.6**	**(0-20)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
	97	(61 - 128)
Toluene-d8	101	(76 - 110)
	100	(76 - 110)
4-Bromofluorobenzene	94	(74 - 116)
	92	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Chain of Custody Record

BROWN AND CALDWELL

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4700 Lakehurst Ct Suite 100
Dublin, Ohio 43016
(614) 410-6144
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☐ **Cleveland Office**
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☐ **Cincinnati Office**
135 Merchant St Suite 240
Cincinnati, Ohio 45246
(513) 719-6100
(513) 719-6105 fax

COC No: 736
Page 1 of 1
Lab Quote No:

Project Name: CRS – Elyria
Project Location: Elyria, OH
Project Number: 139452
Project Manager: James Peeples
Sampler's Name: James Peeples
Sampler's Signature:
Field Phone: 614-208-7201

1 None
2 HCl
3 H2SO4
4 HNO3
5 NaOH
6 Other

Lab: Test America
Address: 4101 Shuffel St NW
North Canton, OH
44720
Phone:
Carrier: FED EX
Airbill: 7939 4745 5154
Alesia Danford

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Container Size and Type (P/G): G	Preservative Code: HCl	VOCs	Remarks:
CRS-MW-MW5	7/23/10	1416	grab	water	3			X	
CRS-MW-MW50	↓	1420	↓	↓	2			X	on bakery bottle
CRS-MW-MW16		1530			3			X	
CRS-MW-MW12		1632			3			X	
CRS-MW-L3	↓	1735	↓	↓	3			X	

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Special Instructions/QC Requirements & Comments:

Relinquished by:	Date/Time: 7/24/10 1630	Received by:	Date/Time: 9/27/10 930
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Cooler TEMPERATURE upon arrival at laboratory _____ °C *(To be filled in by LABORATORY upon receipt)*

Distribution: WHITE - Accompanies shipment YELLOW - Returns with report PINK - Sampler's copy

TestAmerica Cooler Receipt Form/Narrative **Lot Number:** 440270433
North Canton Facility

Client Brown & Caldwell Project CRS-Elyria By: [signature]
Cooler Received on 9/27/10 Opened on 9/27/10 (Signature)
FedEx ☑ UPS ☐ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other _____
TestAmerica Cooler # _____ Multiple Coolers ☐ Foam Box ☐ Client Cooler ☑ Other _____

1. Were custody seals on the outside of the cooler(s)? Yes ☐ No ☑ Intact? Yes ☐ No ☐ NA ☑
   If YES, Quantity_____ Quantity Unsalvageable_____
   Were custody seals on the outside of cooler(s) signed and dated? Yes ☐ No ☐ NA ☑
   Were custody seals on the bottle(s)? Yes ☐ No ☑
   If YES, are there any exceptions? _____
2. Shippers' packing slip attached to the cooler(s)? Yes ☑ No ☐
3. Did custody papers accompany the sample(s)? Yes ☑ No ☐ Relinquished by client? Yes ☑ No ☐
4. Were the custody papers signed in the appropriate place? Yes ☑ No ☐
5. Packing material used: Bubble Wrap ☑ Foam ☑ None ☐ Other _____
6. Cooler temperature upon receipt 3.4 °C See back of form for multiple coolers/temps ☐
   METHOD: IR ☑ Other ☐ _____
   COOLANT: Wet Ice ☑ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐
7. Did all bottles arrive in good condition (Unbroken)? Yes ☑ No ☐
8. Could all bottle labels be reconciled with the COC? Yes ☑ No ☐
9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☐ NA ☑
10. Were correct bottle(s) used for the test(s) indicated? Yes ☑ No ☐
11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☑ NA ☐
12. Sufficient quantity received to perform indicated analyses? Yes ☑ No ☐
13. Was a trip blank present in the cooler(s)? Yes ☑ No ☐ Were VOAs on the COC? Yes ☑ No ☐

Contacted PM AMD Date 9/27/10 by [signature] via Verbal ☐ Voice Mail ☑ Other ☐
Concerning 14

14. CHAIN OF CUSTODY

The following discrepancies occurred:
Rec'd 1x40 TB not on COC. will log.

15. SAMPLE CONDITION

Sample(s)_____ were received after the recommended holding time had expired.
Sample(s)_____ were received in a broken container.
Sample(s)_____ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). *Nitric Acid Lot#* 051010-HNO_3; *Sulfuric Acid Lot#* 051010-H_2SO_4; *Sodium Hydroxide Lot#* 100108 -*NaOH; Hydrochloric Acid Lot#* 092006-*HCl; Sodium Hydroxide and Zinc Acetate Lot#* 100108-$(CH_3COO)_2ZN/NaOH$. What time was preservative added to sample(s)? _____

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler #	Temp. °C	Method	Coolant

Discrepancies Cont'd:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

ANALYTICAL REPORT

REVISED

PROJECT NO. 139452

CRS ELYRIA

Lot #: A0I290542

James A. Peeples

Brown and Caldwell
4700 Lakehurst Court
Suite 100
Dublin, OH 43016

TESTAMERICA LABORATORIES, INC.

Approved for release.
Alesia M. Danford
Project Manager
10/29/2010 12:59 PM

Alesia M. Danford
Project Manager
alesia.danford@testamericainc.com

October 29, 2010

CASE NARRATIVE

A0I290542
Revised

The following report contains the analytical results for one waste sample and two water samples submitted to TestAmerica North Canton by Brown & Caldwell from the CRS ELYRIA Site, project number 139452. The samples were received September 29, 2010, according to documented sample acceptance procedures.

On 10/25/10, per Client request, the sample ID for A0I290452-003 was changed to CRS-MW-MW6B (DNAPL). Also the reporting limits for the sample were updated due to a laboratory oversight. All samples had three (3) compounds added to the volatile analysis per the client request.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to James A. Peeples on October 18, 2010, and October 27, 2010. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters were evaluated to the method detection limit and include qualified results where applicable.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Alesia M. Danford, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

CASE NARRATIVE (continued)

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 9.8°C.

Samples brought to the laboratory directly from the field.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The matrix spike/matrix spike duplicate(s) for batch(es) 0279231 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

The pH of the sample(s) CRS-MW-MW6A was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples are not preserved to a pH of 2.

Sample CRS-MW-MW6B (DNAPL) had analyte that exceeded calibration range. This analyte was added after the data had been initially reported. No corrective action was done

There were no client requested Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples in batch 0285338. Therefore, the laboratory has included a Laboratory Control Sample Duplicate (LCSD) in the QC batch. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

EXECUTIVE SUMMARY - Detection Highlights

A0I290542

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CRS-MW-MW6A 09/29/10 10:30 001				
Naphthalene	24000	1700	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	400 J	1700	ug/L	SW846 8260B
Benzene	1400 J	1700	ug/L	SW846 8260B
Carbon tetrachloride	980 J	1700	ug/L	SW846 8260B
1,1-Dichloroethane	790 J	1700	ug/L	SW846 8260B
1,2-Dichloroethane	600 J	1700	ug/L	SW846 8260B
cis-1,2-Dichloroethene	59000	1700	ug/L	SW846 8260B
1,1-Dichloroethene	1100 J	1700	ug/L	SW846 8260B
trans-1,3-Dichloropropene	340 J	1700	ug/L	SW846 8260B
Ethylbenzene	330 J	1700	ug/L	SW846 8260B
Methylene chloride	2100 B	1700	ug/L	SW846 8260B
4-Methyl-2-pentanone	750 J	17000	ug/L	SW846 8260B
Toluene	14000	1700	ug/L	SW846 8260B
1,1,1-Trichloroethane	6600	1700	ug/L	SW846 8260B
CRS-MW-MW6B 09/29/10 11:15 002				
Naphthalene	70000	3300	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	1800 J	3300	ug/L	SW846 8260B
1,3,5-Trimethylbenzene	780 J	3300	ug/L	SW846 8260B
Benzene	3400	3300	ug/L	SW846 8260B
1,1-Dichloroethane	1300 J	3300	ug/L	SW846 8260B
cis-1,2-Dichloroethene	110000	3300	ug/L	SW846 8260B
1,1-Dichloroethene	2900 J	3300	ug/L	SW846 8260B
Ethylbenzene	2200 J	3300	ug/L	SW846 8260B
Methylene chloride	3900 B	3300	ug/L	SW846 8260B
Styrene	930 J	3300	ug/L	SW846 8260B
Toluene	80000	3300	ug/L	SW846 8260B
1,1,1-Trichloroethane	23000	3300	ug/L	SW846 8260B
Xylenes (total)	6300 J	6700	ug/L	SW846 8260B
CRS-MW-MW6B (DNAPL) 09/29/10 11:15 003				
Naphthalene	92000000	1000000	ug/kg	SW846 8260B
	Qualifiers: E			
1,2,4-Trimethylbenzene	3400000	1000000	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene	1200000	1000000	ug/kg	SW846 8260B
Benzene	320000 J	530000	ug/kg	SW846 8260B
1,1-Dichloroethene	270000 J	530000	ug/kg	SW846 8260B
cis-1,2-Dichloroethene	4400000	260000	ug/kg	SW846 8260B
Ethylbenzene	2500000	530000	ug/kg	SW846 8260B
Isopropylbenzene	86000 J	1000000	ug/kg	SW846 8260B
Methylcyclohexane	360000 J	530000	ug/kg	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A0I290542

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
CRS-MW-MW6B (DNAPL) 09/29/10 11:15 003				
Styrene	960000	530000	ug/kg	SW846 8260B
Tetrachloroethene	140000 J	530000	ug/kg	SW846 8260B
Toluene	32000000	530000	ug/kg	SW846 8260B
1,1,1-Trichloroethane	4200000	530000	ug/kg	SW846 8260B
Xylenes (total)	7200000	530000	ug/kg	SW846 8260B

ANALYTICAL METHODS SUMMARY

A0I290542

PARAMETER	ANALYTICAL METHOD
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A0I290542

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L7N2X	001	CRS-MW-MW6A	09/29/10	10:30
L7N21	002	CRS-MW-MW6B	09/29/10	11:15
L7N22	003	CRS-MW-MW6B (DNAPL)	09/29/10	11:15

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Brown and Caldwell

Client Sample ID: CRS-MW-MW6A

GC/MS Volatiles

Lot-Sample #...: A0I290542-001 **Work Order #...:** L7N2X1AA **Matrix.....:** WW
Date Sampled...: 09/29/10 10:30 **Date Received..:** 09/29/10
Prep Date.....: 10/05/10 **Analysis Date..:** 10/05/10
Prep Batch #...: 0279231
Dilution Factor: 1666.67 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Naphthalene	**24000**	**1700**	**ug/L**	**400**
1,2,4-Trimethylbenzene	**400 J**	**1700**	**ug/L**	**200**
1,3,5-Trimethylbenzene	ND	1700	ug/L	160
Acetone	ND	17000	ug/L	1800
Benzene	**1400 J**	**1700**	**ug/L**	**220**
Bromodichloromethane	ND	1700	ug/L	250
Bromoform	ND	1700	ug/L	1100
Bromomethane	ND	1700	ug/L	680
2-Butanone	ND	17000	ug/L	950
Carbon disulfide	ND	1700	ug/L	220
Carbon tetrachloride	**980 J**	**1700**	**ug/L**	**220**
Chlorobenzene	ND	1700	ug/L	250
Dibromochloromethane	ND	1700	ug/L	300
Chloroethane	ND	1700	ug/L	480
Chloroform	ND	1700	ug/L	270
Chloromethane	ND	1700	ug/L	500
Cyclohexane	ND	1700	ug/L	200
1,2-Dibromo-3-chloro-propane	ND	3300	ug/L	1100
1,2-Dibromoethane	ND	1700	ug/L	400
1,2-Dichlorobenzene	ND	1700	ug/L	220
1,3-Dichlorobenzene	ND	1700	ug/L	230
1,4-Dichlorobenzene	ND	1700	ug/L	220
Dichlorodifluoromethane	ND	1700	ug/L	520
1,1-Dichloroethane	**790 J**	**1700**	**ug/L**	**250**
1,2-Dichloroethane	**600 J**	**1700**	**ug/L**	**370**
cis-1,2-Dichloroethene	**59000**	**1700**	**ug/L**	**280**
trans-1,2-Dichloroethene	ND	1700	ug/L	320
1,1-Dichloroethene	**1100 J**	**1700**	**ug/L**	**320**
1,2-Dichloropropane	ND	1700	ug/L	300
cis-1,3-Dichloropropene	ND	1700	ug/L	230
trans-1,3-Dichloropropene	**340 J**	**1700**	**ug/L**	**320**
Ethylbenzene	**330 J**	**1700**	**ug/L**	**280**
2-Hexanone	ND	17000	ug/L	680
Isopropylbenzene	ND	1700	ug/L	220
Methyl acetate	ND	17000	ug/L	630
Methylcyclohexane	ND	1700	ug/L	220
Methylene chloride	**2100 B**	**1700**	**ug/L**	**550**
4-Methyl-2-pentanone	**750 J**	**17000**	**ug/L**	**530**

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Brown and Caldwell

Client Sample ID: CRS-MW-MW6A

GC/MS Volatiles

Lot-Sample #...: A0I290542-001 **Work Order #...:** L7N2X1AA **Matrix.....:** WW

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methyl tert-butyl ether	ND	8300	ug/L	280
Styrene	ND	1700	ug/L	180
1,1,2,2-Tetrachloroethane	ND	1700	ug/L	300
Tetrachloroethene	ND	1700	ug/L	480
Toluene	**14000**	**1700**	**ug/L**	**220**
1,2,4-Trichloro-benzene	ND	1700	ug/L	250
1,1,1-Trichloroethane	**6600**	**1700**	**ug/L**	**370**
1,1,2-Trichloroethane	ND	1700	ug/L	450
Trichloroethene	ND	1700	ug/L	280
Trichlorofluoromethane	ND	1700	ug/L	350
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1700	ug/L	470
Vinyl chloride	ND	1700	ug/L	370
Xylenes (total)	ND	3300	ug/L	470

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	92	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Brown and Caldwell

Client Sample ID: CRS-MW-MW6B

GC/MS Volatiles

Lot-Sample #...: A0I290542-002 **Work Order #...:** L7N211AA **Matrix.....:** WW
Date Sampled...: 09/29/10 11:15 **Date Received..:** 09/29/10
Prep Date.....: 10/05/10 **Analysis Date..:** 10/05/10
Prep Batch #...: 0279231
Dilution Factor: 3333.33 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Naphthalene	**70000**	**3300**	**ug/L**	**800**
1,2,4-Trimethylbenzene	**1800 J**	**3300**	**ug/L**	**400**
1,3,5-Trimethylbenzene	**780 J**	**3300**	**ug/L**	**320**
Acetone	ND	33000	ug/L	3700
Benzene	**3400**	**3300**	**ug/L**	**430**
Bromodichloromethane	ND	3300	ug/L	500
Bromoform	ND	3300	ug/L	2100
Bromomethane	ND	3300	ug/L	1400
2-Butanone	ND	33000	ug/L	1900
Carbon disulfide	ND	3300	ug/L	430
Carbon tetrachloride	ND	3300	ug/L	430
Chlorobenzene	ND	3300	ug/L	500
Dibromochloromethane	ND	3300	ug/L	600
Chloroethane	ND	3300	ug/L	970
Chloroform	ND	3300	ug/L	530
Chloromethane	ND	3300	ug/L	1000
Cyclohexane	ND	3300	ug/L	400
1,2-Dibromo-3-chloro-propane	ND	6700	ug/L	2200
1,2-Dibromoethane	ND	3300	ug/L	800
1,2-Dichlorobenzene	ND	3300	ug/L	430
1,3-Dichlorobenzene	ND	3300	ug/L	470
1,4-Dichlorobenzene	ND	3300	ug/L	430
Dichlorodifluoromethane	ND	3300	ug/L	1000
1,1-Dichloroethane	**1300 J**	**3300**	**ug/L**	**500**
1,2-Dichloroethane	ND	3300	ug/L	730
cis-1,2-Dichloroethene	**110000**	**3300**	**ug/L**	**570**
trans-1,2-Dichloroethene	ND	3300	ug/L	630
1,1-Dichloroethene	**2900 J**	**3300**	**ug/L**	**630**
1,2-Dichloropropane	ND	3300	ug/L	600
cis-1,3-Dichloropropene	ND	3300	ug/L	470
trans-1,3-Dichloropropene	ND	3300	ug/L	630
Ethylbenzene	**2200 J**	**3300**	**ug/L**	**570**
2-Hexanone	ND	33000	ug/L	1400
Isopropylbenzene	ND	3300	ug/L	430
Methyl acetate	ND	33000	ug/L	1300
Methylcyclohexane	ND	3300	ug/L	430
Methylene chloride	**3900 B**	**3300**	**ug/L**	**1100**
4-Methyl-2-pentanone	ND	33000	ug/L	1100

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Brown and Caldwell

Client Sample ID: CRS-MW-MW6B

GC/MS Volatiles

Lot-Sample #...: A0I290542-002 **Work Order #...:** L7N211AA **Matrix.....:** WW

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methyl tert-butyl ether	ND	17000	ug/L	570
Styrene	**930 J**	**3300**	**ug/L**	**370**
1,1,2,2-Tetrachloroethane	ND	3300	ug/L	600
Tetrachloroethene	ND	3300	ug/L	970
Toluene	**80000**	**3300**	**ug/L**	**430**
1,2,4-Trichloro-benzene	ND	3300	ug/L	500
1,1,1-Trichloroethane	**23000**	**3300**	**ug/L**	**730**
1,1,2-Trichloroethane	ND	3300	ug/L	900
Trichloroethene	ND	3300	ug/L	570
Trichlorofluoromethane	ND	3300	ug/L	700
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	3300	ug/L	930
Vinyl chloride	ND	3300	ug/L	730
Xylenes (total)	**6300 J**	**6700**	**ug/L**	**930**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	88	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Brown and Caldwell

Client Sample ID: CRS-MW-MW6B (DNAPL)

GC/MS Volatiles

Lot-Sample #...: A0I290542-003 **Work Order #...:** L7N221AA **Matrix.....:** LO
Date Sampled...: 09/29/10 11:15 **Date Received..:** 09/29/10
Prep Date.....: 10/09/10 **Analysis Date..:** 10/12/10
Prep Batch #...: 0285338
Dilution Factor: 854.29
% Moisture.....: **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Naphthalene	**92000000 E**	**1000000**	**ug/kg**	**8500**
1,2,4-Trimethylbenzene	**3400000**	**1000000**	**ug/kg**	**22000**
1,3,5-Trimethylbenzene	**1200000**	**1000000**	**ug/kg**	**21000**
Acetone	ND	2100000	ug/kg	85000
Benzene	**320000 J**	**530000**	**ug/kg**	**5500**
Bromodichloromethane	ND	530000	ug/kg	10000
Bromoform	ND	530000	ug/kg	11000
Bromomethane	ND	1000000	ug/kg	21000
2-Butanone	ND	2100000	ug/kg	42000
Carbon disulfide	ND	530000	ug/kg	17000
Carbon tetrachloride	ND	530000	ug/kg	10000
Chlorobenzene	ND	530000	ug/kg	5400
Chloroethane	ND	1000000	ug/kg	56000
Chloroform	ND	530000	ug/kg	10000
Chloromethane	ND	1000000	ug/kg	4400
Cyclohexane	ND	2100000	ug/kg	6600
Dibromochloromethane	ND	530000	ug/kg	5900
1,2-Dibromo-3-chloro-propane	ND	1000000	ug/kg	51000
1,2-Dibromoethane	ND	530000	ug/kg	8500
1,2-Dichlorobenzene	ND	1000000	ug/kg	15000
1,3-Dichlorobenzene	ND	1000000	ug/kg	6200
1,4-Dichlorobenzene	ND	1000000	ug/kg	6700
Dichlorodifluoromethane	ND	1000000	ug/kg	4600
1,1-Dichloroethane	ND	530000	ug/kg	6200
1,2-Dichloroethane	ND	530000	ug/kg	7900
1,1-Dichloroethene	**270000 J**	**530000**	**ug/kg**	**7100**
cis-1,2-Dichloroethene	**4400000**	**260000**	**ug/kg**	**12000**
trans-1,2-Dichloroethene	ND	260000	ug/kg	9400
1,2-Dichloropropane	ND	530000	ug/kg	6300
cis-1,3-Dichloropropene	ND	530000	ug/kg	4700
trans-1,3-Dichloropropene	ND	530000	ug/kg	4600
Ethylbenzene	**2500000**	**530000**	**ug/kg**	**5800**
2-Hexanone	ND	2100000	ug/kg	21000
Isopropylbenzene	**86000 J**	**1000000**	**ug/kg**	**4400**
Methyl acetate	ND	1000000	ug/kg	44000
Methylene chloride	ND	530000	ug/kg	85000
Methylcyclohexane	**360000 J**	**530000**	**ug/kg**	**7600**

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Brown and Caldwell

Client Sample ID: CRS-MW-MW6B (DNAPL)

GC/MS Volatiles

Lot-Sample #...: A0I290542-003 **Work Order #...:** L7N221AA **Matrix.....:** LO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
4-Methyl-2-pentanone	ND	2100000	ug/kg	9400
Methyl tert-butyl ether	ND	2100000	ug/kg	8500
Styrene	**960000**	**530000**	**ug/kg**	**24000**
1,1,2,2-Tetrachloroethane	ND	530000	ug/kg	7000
Tetrachloroethene	**140000 J**	**530000**	**ug/kg**	**7700**
Toluene	**32000000**	**530000**	**ug/kg**	**7800**
1,2,4-Trichloro-benzene	ND	1000000	ug/kg	10000
1,1,1-Trichloroethane	**4200000**	**530000**	**ug/kg**	**8100**
1,1,2-Trichloroethane	ND	530000	ug/kg	8500
Trichloroethene	ND	530000	ug/kg	10000
Trichlorofluoromethane	ND	1000000	ug/kg	7100
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2100000	ug/kg	8500
Vinyl chloride	ND	1000000	ug/kg	14000
Xylenes (total)	**7200000**	**530000**	**ug/kg**	**13000**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	0.0 DIL,*	(59 - 138)
1,2-Dichloroethane-d4	0.0 DIL,*	(61 - 130)
Toluene-d8	0.0 DIL,*	(60 - 143)
4-Bromofluorobenzene	0.0 DIL,*	(47 - 158)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

* Surrogate recovery is outside stated control limits.

E Estimated result. Result concentration exceeds the calibration range.

J Estimated result. Result is less than RL.

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QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0I290542 **Work Order #...:** L72VN1AA **Matrix.....:** WATER
MB Lot-Sample #: A0J060000-231

Prep Date.....: 10/05/10
Analysis Date..: 10/05/10 **Prep Batch #...:** 0279231
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Naphthalene	ND	1.0	ug/L	SW846 8260B
1,2,4-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
1,3,5-Trimethylbenzene	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	10	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	2.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	10	ug/L	SW846 8260B
Isopropylbenzene	ND	1.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
Methylene chloride	**0.44 J**	**1.0**	**ug/L**	**SW846 8260B**
4-Methyl-2-pentanone	ND	10	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0I290542 **Work Order #...:** L72VN1AA **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,2,4-Trichloro-benzene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	94	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0I290542 **Work Order #...:** L8CNH1AA **Matrix.....:** WASTE
MB Lot-Sample #: A0J120000-338

Prep Date.....: 10/09/10
Analysis Date..: 10/12/10 **Prep Batch #...:** 0285338
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Naphthalene	ND	1200	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene	ND	1200	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene	ND	1200	ug/kg	SW846 8260B
Acetone	ND	2500	ug/kg	SW846 8260B
Benzene	ND	620	ug/kg	SW846 8260B
Bromodichloromethane	ND	620	ug/kg	SW846 8260B
Bromoform	ND	620	ug/kg	SW846 8260B
Bromomethane	ND	1200	ug/kg	SW846 8260B
2-Butanone	ND	2500	ug/kg	SW846 8260B
Carbon disulfide	ND	620	ug/kg	SW846 8260B
Carbon tetrachloride	ND	620	ug/kg	SW846 8260B
Chlorobenzene	ND	620	ug/kg	SW846 8260B
Chloroethane	ND	1200	ug/kg	SW846 8260B
Chloroform	ND	620	ug/kg	SW846 8260B
Chloromethane	ND	1200	ug/kg	SW846 8260B
Cyclohexane	ND	2500	ug/kg	SW846 8260B
Dibromochloromethane	ND	620	ug/kg	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	1200	ug/kg	SW846 8260B
1,2-Dibromoethane	ND	620	ug/kg	SW846 8260B
1,2-Dichlorobenzene	ND	1200	ug/kg	SW846 8260B
1,3-Dichlorobenzene	ND	1200	ug/kg	SW846 8260B
1,4-Dichlorobenzene	ND	1200	ug/kg	SW846 8260B
Dichlorodifluoromethane	ND	1200	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	620	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	620	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	620	ug/kg	SW846 8260B
cis-1,2-Dichloroethene	ND	310	ug/kg	SW846 8260B
trans-1,2-Dichloroethene	ND	310	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	620	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	620	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	620	ug/kg	SW846 8260B
Ethylbenzene	ND	620	ug/kg	SW846 8260B
2-Hexanone	ND	2500	ug/kg	SW846 8260B
Isopropylbenzene	ND	1200	ug/kg	SW846 8260B
Methyl acetate	ND	1200	ug/kg	SW846 8260B
Methylene chloride	ND	620	ug/kg	SW846 8260B
Methylcyclohexane	ND	620	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	2500	ug/kg	SW846 8260B
Methyl tert-butyl ether	ND	2500	ug/kg	SW846 8260B
Styrene	ND	620	ug/kg	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A0I290542 **Work Order #...:** L8CNH1AA **Matrix.....:** WASTE

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,1,2,2-Tetrachloroethane	ND	620	ug/kg	SW846 8260B
Tetrachloroethene	ND	620	ug/kg	SW846 8260B
Toluene	ND	620	ug/kg	SW846 8260B
1,2,4-Trichloro-benzene	**65 J**	**1200**	**ug/kg**	**SW846 8260B**
1,1,1-Trichloroethane	ND	620	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	620	ug/kg	SW846 8260B
Trichloroethene	ND	620	ug/kg	SW846 8260B
Trichlorofluoromethane	ND	1200	ug/kg	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2500	ug/kg	SW846 8260B
Vinyl chloride	ND	1200	ug/kg	SW846 8260B
Xylenes (total)	ND	620	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	86	(36 - 132)
1,2-Dichloroethane-d4	105	(55 - 120)
Toluene-d8	97	(29 - 132)
4-Bromofluorobenzene	87	(27 - 136)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0I290542 **Work Order #...:** L72VN1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: A0J060000-231 L72VN1AD-LCSD
Prep Date.....: 10/05/10 **Analysis Date..:** 10/05/10
Prep Batch #...: 0279231
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**109**	**(80 - 116)**			**SW846 8260B**
	109	**(80 - 116)**	**0.60**	**(0-20)**	**SW846 8260B**
Chlorobenzene	**109**	**(76 - 117)**			**SW846 8260B**
	105	**(76 - 117)**	**3.0**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**94**	**(63 - 130)**			**SW846 8260B**
	95	**(63 - 130)**	**0.12**	**(0-20)**	**SW846 8260B**
Toluene	**112**	**(74 - 119)**			**SW846 8260B**
	110	**(74 - 119)**	**1.6**	**(0-20)**	**SW846 8260B**
Trichloroethene	**97**	**(75 - 122)**			**SW846 8260B**
	97	**(75 - 122)**	**0.12**	**(0-20)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	89	(73 - 122)
	88	(73 - 122)
1,2-Dichloroethane-d4	103	(61 - 128)
	105	(61 - 128)
Toluene-d8	95	(76 - 110)
	95	(76 - 110)
4-Bromofluorobenzene	104	(74 - 116)
	103	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0I290542 **Work Order #...:** L8CNH1AC-LCS **Matrix.....:** WASTE
LCS Lot-Sample#: A0J120000-338 L8CNH1AD-LCSD
Prep Date.....: 10/09/10 **Analysis Date..:** 10/12/10
Prep Batch #...: 0285338
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**104**	**(72 - 122)**			**SW846 8260B**
	102	**(72 - 122)**	**2.2**	**(0-20)**	**SW846 8260B**
Chlorobenzene	**96**	**(74 - 121)**			**SW846 8260B**
	101	**(74 - 121)**	**4.8**	**(0-30)**	**SW846 8260B**
1,1-Dichloroethene	**108**	**(44 - 150)**			**SW846 8260B**
	108	**(44 - 150)**	**0.050**	**(0-30)**	**SW846 8260B**
Toluene	**101**	**(70 - 124)**			**SW846 8260B**
	105	**(70 - 124)**	**3.9**	**(0-30)**	**SW846 8260B**
Trichloroethene	**95**	**(63 - 131)**			**SW846 8260B**
	102	**(63 - 131)**	**7.1**	**(0-30)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	83	(36 - 132)
	84	(36 - 132)
1,2-Dichloroethane-d4	97	(55 - 120)
	99	(55 - 120)
Toluene-d8	94	(29 - 132)
	91	(29 - 132)
4-Bromofluorobenzene	90	(27 - 136)
	88	(27 - 136)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A0I290542 **Work Order #...:** L7RLT1AC-MS **Matrix.....:** WATER
MS Lot-Sample #: A0I300564-012 L7RLT1AD-MSD
Date Sampled...: 09/29/10 13:00 **Date Received..:** 09/30/10
Prep Date.....: 10/05/10 **Analysis Date..:** 10/05/10
Prep Batch #...: 0279231
Dilution Factor: 500

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**114**	**(78 - 118)**			**SW846 8260B**
	128 a	**(78 - 118)**	**3.6**	**(0-20)**	**SW846 8260B**
Chlorobenzene	**101**	**(76 - 117)**			**SW846 8260B**
	105	**(76 - 117)**	**4.0**	**(0-20)**	**SW846 8260B**
1,1-Dichloroethene	**92**	**(62 - 130)**			**SW846 8260B**
	91	**(62 - 130)**	**0.88**	**(0-20)**	**SW846 8260B**
Toluene	**105**	**(70 - 119)**			**SW846 8260B**
	108	**(70 - 119)**	**2.8**	**(0-20)**	**SW846 8260B**
Trichloroethene	**93**	**(62 - 130)**			**SW846 8260B**
	96	**(62 - 130)**	**3.0**	**(0-20)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(73 - 122)
	88	(73 - 122)
1,2-Dichloroethane-d4	108	(61 - 128)
	105	(61 - 128)
Toluene-d8	95	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	102	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

Chain of Custody Record

BROWN AND CALDWELL

☒ Columbus Office
4700 Lakehurst Ct Suite 100
Dublin, Ohio 43016
(614) 410-6144
(614) 614-3088 fax

☐ Cleveland Office
7550 Lucerne Dr Suite 310
Middleburg Heights, Ohio 44130
(440) 826-4900
(440) 826-3400 fax

☐ Cincinnati Office
135 Merchant St Suite 240
Cincinnati, Ohio 45246
(513) 719-6100
(513) 719-6105 fax

COC No: 726

Page 1 of 1

Lab Quote No:

Project Name: CRS ELYRIA

Project Location: ELYRIA, OH

Project Number:

Project Manager: J. PEEPLES

Sampler's Name: J. PEEPLES / J. KRABS

Sampler's Signature: [signature]

Field Phone: 614 / 653-5474

1 None
2 HCl
3 H2SO4
4 HNO3
5 NaOH
6 Other ___

Lab: TEST AMERICA

Address: SHUFFEL DR.
NORTH CANTON, OH
4101 Shuffel St. NW
North Canton, OH 44720

Phone:

Carrier: FED EX ~~HAND DELIVERY~~

Airbill: 8557 5590 2550

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	Total # of Cont.	Container Size and Type (P/G): 3 40mL	3 40mL								Preservative Code: 1	1								Remarks:
						VOCs	VOCs																	
CRS-MW-MW6A (LNAPL)	9/29	1030	W	GW	3	X	-																	Note all samples have some NAPL component. We want analysis of the LNAPL the DNAPL and the water (3 results total)
CRS-MW-MW6B * (DNAPL)	9/29	1115	W	GW	3	-	X																	

Special Instructions/QC Requirements & Comments:
* 1 bottle noted as preference for analysis of DNAPL

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	9/29/10 / 1738	[signature]	9-29-10 14:38 PM
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

Cooler TEMPERATURE upon arrival at laboratory _____ °C *(To be filled in by LABORATORY upon receipt)*

Distribution: WHITE - Accompanies shipment YELLOW - Returns with report PINK - Sampler's copy

TestAmerica Cooler Receipt Form/Narrative **Lot Number:** 240-29054-2
North Canton Facility

Client Brown + Caldwell Project CBS, Elyria By Jennifer Miller (Signature)
Cooler Received on 9-29-10 Opened on 9-29-10
FedEx ☐ UPS ☐ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☒ TestAmerica Courier ☐ Other
TestAmerica Cooler # Multiple Coolers ☐ Foam Box ☐ Client Cooler ☒ Other

1. Were custody seals on the outside of the cooler(s)? Yes ☐ No ☒ Intact? Yes ☐ No ☐ NA ☒
   If YES, Quantity Quantity Unsalvageable
   Were custody seals on the outside of cooler(s) signed and dated? Yes ☐ No ☐ NA ☒
   Were custody seals on the bottle(s)? Yes ☐ No ☒
   If YES, are there any exceptions?
2. Shippers' packing slip attached to the cooler(s)? Yes ☐ No ☒
3. Did custody papers accompany the sample(s)? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐
4. Were the custody papers signed in the appropriate place? Yes ☒ No ☐
5. Packing material used: Bubble Wrap ☐ Foam ☒ None ☐ Other
6. Cooler temperature upon receipt 9.8 °C See back of form for multiple coolers/temps ☐
   METHOD: IR ☒ Other ☐
   COOLANT: Wet Ice ☒ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐
7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐
9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☐ NA ☒
10. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐
11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☒ NA ☐
12. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐
13. Was a trip blank present in the cooler(s)? Yes ☐ No ☒ Were VOAs on the COC? Yes ☒ No ☐

Contacted PM AMD Date 9-29-10 by JH via Verbal ☒ Voice Mail ☐ Other ☐
Concerning high temp

14. CHAIN OF CUSTODY

The following discrepancies occurred:
-High temp- direct from field.

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in Sample Receiving to meet recommended pH level(s). *Nitric Acid Lot#* 051010-HNO_3; *Sulfuric Acid Lot#* 051010-H_2SO_4; *Sodium Hydroxide Lot#* 100108 -*NaOH; Hydrochloric Acid Lot#* 092006-*HCl; Sodium Hydroxide and Zinc Acetate Lot#* 100108-$(CH_3COO)_2ZN/NaOH$. What time was preservative added to sample(s)?

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler #	Temp. °C	Method	Coolant

Discrepancies Cont'd:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

END OF REPORT

4700 Lakehurst Court, Suite 100
Dublin, Ohio 43016
Tel: 614-410-6144
Fax: 614-410-3088
www.brownandcaldwell.com

October 26, 2010

Brown AND Caldwell

Michelle Kerr
Remedial Project Manager
U.S EPA – Region 5
77 W. Jackson Blvd.
Mail Code: S-6J
Chicago, IL 60604-3590

139452

Subject: Additional Investigation Notification
United States of America v. AK Steel Corporation et. al.
Case No. 1:10-cv-00996-KMO
Chemical Recovery Systems Superfund Site, Elyria, Ohio

Dear Ms. Kerr:

Chemical Recovery Systems, Inc. (CRS) Site RD/RA Group Settling Performing Defendants in the CRS RD/RA Group (the Performing Parties) have completed two groundwater sampling events at the CRS site. The first sampling event identified a non-aqueous phase liquid (NAPL) in well MW-6. The second event better defined the nature of the NAPL to consist of a light and dense phase, and sampling of the phases and water in the well was performed. The findings of these investigations have previously been communicated to the U.S. EPA, and the analytical results of the sampling will be transmitted following completion of data validation. Based on the presence of dense non-aqueous phase liquid (DNAPL) and light non-aqueous phase liquid (LNAPL) in well MW-6, it has been determined that additional investigation will be completed in this area to better define the source of the material found in MW-6. This letter provides a description of the field activities that will be completed in the near future to meet this objective.

Additional Investigation in the Vicinity of Monitoring Well MW-6

The purpose of the additional investigation will be to identify the location or locations upgradient of well MW-6 and in the vicinity of the two former Rodney Hunt stills where NAPL may have entered the vadose zone soils and ultimately the Berea Sandstone. The upper surface of the Berea Sandstone in this area is present at a depth of approximately ten feet below ground surface (bgs). The investigation will focus on the identification of impacted soils indicative of the presence of NAPL. Information obtained during the RI/FS investigation suggests that the Berea Sandstone is overlain by vadose zone soils that are generally of higher permeability than the sandstone. Permeable soil above the sandstone could have allowed some lateral migration of NAPL on top of the sandstone based on the contour of the sandstone surface. Therefore the investigation will also be used to better define the contour surface of the Berea Sandstone in the area of the former stills and the probable drainage direction for water or NAPL that contacts the bedrock surface.

The investigation will use a Geoprobe® drilling rig to complete the following tasks: (1) collect cores of soil to better define the soil types present in the vadose zone in this area, (2) obtain samples for laboratory analysis in locations where heavily impacted soils may be encountered, (3) identify the top of the sandstone at various locations in this area to provide a more detailed top of bedrock contour map, and (4) to install vapor probes at the bedrock interface that can be used to better define the area where the bedrock may be impacted with NAPL. Soil samples will be collected at selected borings for the purpose of characterizing NAPL material, and soil gas obtained from the vapor probes will be screened with field instruments to both define the zone of impact and to determine if impact in a given area is a result of chlorinated or non-chlorinated compounds. Field screening along with limited laboratory analysis of soil samples will be used for defining areas where NAPL material may have moved through the soil to the bedrock interface.

The SOW requires implementation of an Additional Groundwater Studies Work Plan which will supplement RI data and assess groundwater conditions across the site. The scope of that investigation included a boring near MW-6 to determine if MW-6 is screened at the correct depth to monitor groundwater conditions. Given the recent findings, the investigation around MW-6 will also need to define the lateral extents of NAPL at MW-6 and upgradient of MW-6. The purpose of the investigation described here will be to identify locations where NAPL may have entered the bedrock in the vicinity of the former Rodney Hunt stills, thereby providing information needed to select locations for bedrock borings and wells that will be added to the Additional Groundwater Studies Work Plan. It is anticipated that this investigation can be completed in sufficient time that it will not affect the schedule for the Additional Groundwater Studies.

Scope of the Soil Investigation Work

The investigation will consist of a grid of Geoprobe® borings placed approximately 10 feet on center from the MW-6 area east through the area of the former Rodney Hunt Stills. The borings will be advanced using Geoprobe® Macrocore® tooling to allow the collection of nearly continuous soil samples in each boring location. The samples will be retrieved from the Macrocore rods in acetate sleeves, which will be opened by the driller for inspection by the field geologist. The cores will be screened with a PID immediately after opening to identify locations where impacted soil may be present and these locations will be noted. The Geologist will then log the material in the core from the ground surface to the bedrock interface. Soil samples will be collected based on visual and field screening evidence of NAPL impact for potential laboratory analysis. The Geoprobe® tooling will be advanced to the point of refusal, and determinations will be made by the geologist regarding whether the refusal is a result of encountering bedrock or encountering other items such as bricks or other fill material. The geologist will try to obtain evidence of weathered bedrock at the base of each boring to positively identify the bedrock interface. If refusal is determined to be caused by other obstructions, an offset boring will be placed to attempt to log the bedrock interface.

Figure 1 provides the approximate locations where the Geoprobe® borings will be installed. In locations where surface obstructions are present, such as the floor of the

existing Rodney Hunt Still building or concrete slabs that are known to be present in the area, the concrete or other material will be cored prior to placement of the borings. Additional borings may be placed between boring locations noted on Figure 1 or outside of this grid as needed to define the extents of NAPL or heavily impacted soil in the area between the former stills and well MW-6.

The purpose of the investigation is to identify the potential source and location of NAPL at the site. Soil samples will be collected only at locations where there is evidence of NAPL and will be used to characterize the constituents of the NAPL. Samples that are submitted to the laboratory will be analyzed for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in accordance with the draft Quality Assurance Project Plan (QAPP). It is anticipated that only a few soil samples will be submitted for analysis and no soil samples will be submitted if there is no evidence of free-phase NAPL.

Upon completion of each boring to the bedrock surface, a one-inch diameter schedule 40 PVC vapor probe will be installed in the boring. The vapor probe will consist of a six-inch long screen at the base with blank riser extending to a point approximately 12 inches above the ground surface. Sand will be placed around the screened zone to a distance approximately six inches above the top of the screen. Bentonite chips will then be placed from the top of the sand to the ground surface. The bentonite chips will be hydrated after placement of each two foot interval with potable water to ensure that the chips form an impermeable seal around the well casing to the ground surface.

Following at least 24 hours for saturation of the bentonite seals, each probe will be checked for the presence of water. Water present in the probe will likely preclude the measurement of soil gas at a given location. If water is encountered, the depth to water will be identified and an interface probe will be used to determine if NAPL is present in the probe and if the NAPL can be identified as DNAPL or LNAPL. For all vapor probes that do not contain water or NAPL, soil gas will be extracted using a sampling device that extracts a low flow of soil gas from the probe. The soil gas will be screened with a photoionization detector (PID), and an X-Wand®. The PID is sensitive to the presence of organic compounds, including most chlorinated and non-chlorinated species. The X-Wand® will respond primarily to halogenated compounds. The quantity of response will be recorded for each instrument at each probe location.

All Geoprobe® rods and other equipment that contacts the soil will be either placed in drums for disposal (acetate liners) or decontaminated in accordance with the level 1 decontamination procedures described in the draft Field Sampling Plan. All investigation derived soil and personal protective equipment will be placed in drums for characterization and appropriate disposal.

The top of casing for each vapor probe will be measured relative to known site reference points using a laser level, and the horizontal location of each probe will be measured

using site reference points for placement of the borings on a map. Surveying of the probe locations will be completed at the time of the Additional Groundwater Studies.

All investigation derived waste will be characterized for disposal and will be taken to an appropriate facility under manifest for disposal. Existing drums at the site from past investigations and leftover from other site operations that have occurred since CRS ceased operations will also be removed at this time, and the former Rodney Hunt still sump will be cleaned and tested for integrity.

Reporting

A report detailing the results of each activity of this investigation will be prepared and will be submitted as a part of the Additional Groundwater Studies Work Plan. Analytical results will be provided ahead of the Additional Groundwater Studies Work Plan after appropriate validation, per the requirements of the ROD and SOW. The report will document the results of the investigation and to describe how the results will be used in designing the placement of bedrock borings and groundwater monitoring wells. Borings and wells placed in the bedrock will be used to delineate the extents of the source material and to provide information useful for designing measures to augment the monitored natural attenuation (MNA) solution for groundwater impact at this Site.

If you have any questions regarding this investigation, please contact me at 614-410-6144.

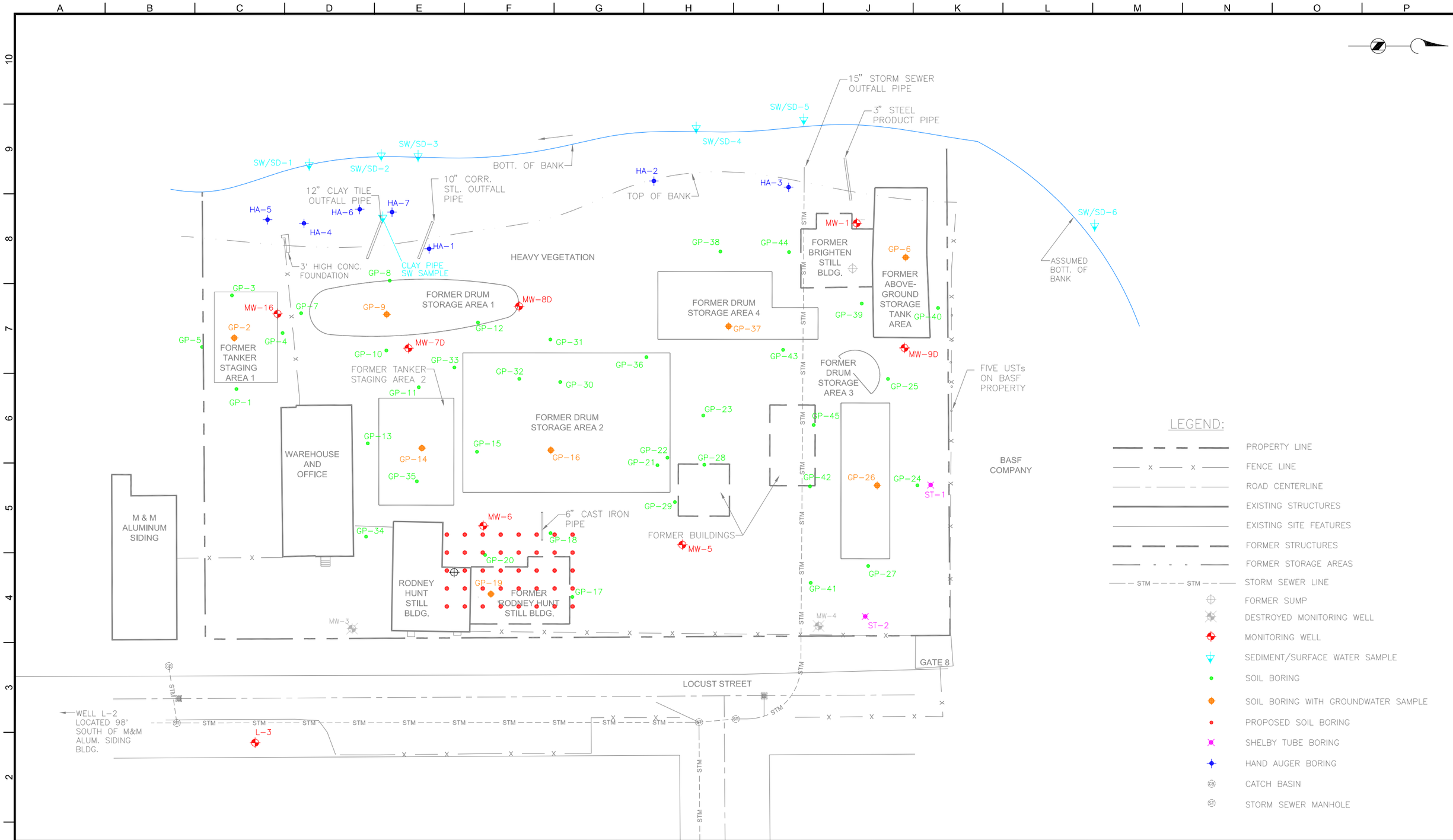
Sincerely,

Brown and Caldwell

James Peeples, P.E.
Project Manager

ec: CRS Site RD/RA Group Performing Parties
Doug McWilliams, CRS Site RD/RA Group Chair and Common Counsel
Patrick Steerman, CRS Site Project Coordinator
Larry Antonelli, Ohio EPA
Thomas Nash, U.S. EPA, Associate Regional Counsel

Attachment



P:\CRS\DRAWINGS\CAD\FIGURES\FIGURES.DWG October 11, 2010

October 11, 2010

Brown AND Caldwell
COLUMBUS, OHIO

SUBMITTED: _____ DATE: _____
PROJECT MANAGER

APPROVED: _____ DATE: _____
BROWN AND CALDWELL

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED:
DRAWN: NE
CHECKED:
CHECKED:
APPROVED: JP

EXTERNAL REFERENCE FILES

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

0 25 50
SCALE IN FEET

CHEMICAL RECOVERY SYSTEMS SITE
ELYRIA, OHIO

SITE SAMPLING LOCATIONS

FILENAME: FIGURES.DWG
BC PROJECT NUMBER: XXXXXX
CLIENT PROJECT NUMBER:
FIGURE NUMBER: 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF: SR-6J

November 12, 2010

Mr. Patrick Steerman
Steerman Environmental Management & Consulting, LLC
422 Creek View Lane
Roswell, GA 30075

Re: Chemical Recovery Systems Inc. Site
Additional Investigation Approval

Dear Mr. Steerman:

On October 26, 2010, the U.S. Environmental Protection Agency (EPA) received the plan for additional investigation of non-aqueous phase liquids (NAPL) discovered in well MW-6 on September 23, 2010, from Mr. James Peeples of Brown and Caldwell, representing the Chemical Recovery Systems Remedial Design/Remedial Action Group Performing Parties (CRS Group). EPA forwarded the plan to Mr. Larry Antonelli, Project Coordinator for Ohio Environmental Protection Agency (OEPA). From November 1-9, 2010, the CRS Group addressed comments and questions from EPA via email and conference call, and EPA consulted with OEPA. EPA approves the work plan.

The Quality Assurance Project Plan, Field Sampling Plan, and Health and Safety Plan (HASP) were submitted with the draft Remedial Design work plan September 20, 2010. After preliminary review, these draft plans are acceptable to follow for performance of this work. Note that according to Mr. Peeples' email of November 5, 2010, a revised HASP will include polychlorinated biphenyls as a contaminant of concern for the site. It is the CRS Group's responsibility to ensure that site workers receive/review a revised copy of the HASP before beginning work onsite. A copy of the revised HASP should be available during work at the site. Also, when circulating technical plans and results for the site, please be certain to include Mr. Antonelli.

If you have any questions or concerns, please contact me at (312) 886-8961.

Sincerely,

Michelle Kerr
Remedial Project Manager

cc via email: L. Antonelli, OEPA
L. Mencin, Sherwin Williams
J. Peeples, B&C
K. Furrie, US DOJ